REMARKS

Claim 1 has been amended to incorporate recitations from claim 9 and to recite (meth) acrylates. Claim 10 has been added including recitations of claim 1.

Entry of the above amendment is respectfully requested.

Rejections Under 35 U.S.C. § 103(a)

On page 3 of the Office Action, claims 1, 7 and 8 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over "Nagamoto 423" (U.S. Patent No. 6,156,423) in view of "Kazuyoshi" (JP 62-153376). On page 6 of the Office Action, claims 1, 4 and 7-9 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over "Nagamoto 953" (U.S. Patent No. 6,139,953) in view of "Onozawa" (U.S. Patent No. 6,103,370). On page 9 of the Office Action, claim 3 is rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Nagamoto 953 in view of Onozawa as applied to claim 1 above, and further in view of "Mori Satoru" (JP 11-189762). On page 10 of the Office Action, claim 6 is rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Nagamoto 953 in view of Onozawa as applied to claim 1 above, and further in view of "Furuya" (U.S. Patent No. 6,150,026).

In response, Applicant notes initially that the Examiner asserts that Nagamoto 423 (U.S. Patent No. 6,156,423) teaches all of the recitations of claim 1. However, Applicant submits that the Examiner's assertion is incorrect.

That is, the barrier layer of Nagamoto 423 is different from the hard coat layer of the present invention. The barrier layer of Nagamoto 423 is composed of polyethylene terephthalate, polyethylene naphthalate, low-density polyethylene, thermoplastic polyurethane,

thermoplastic acrylate resin, polypropylene, polyethylene/(meth) acrylate copolymer, or the like, as described in column 4, lines 58-64 of Nagamoto 423.

In contrast, the hard coat layer of the present, invention is composed of a thermosetting hard coat agent of silicone hard coat agent or an ultraviolet curable hard coat agent of (meth)acrylates, urethane (meth)acrylates or polyester (meth)acrylates.

The barrier layer of Nagamoto 423 is different from the hard coat layer of the present invention in the composed material.

Further, the object of Nagamoto 423 is to provide a base material for obtaining an adhesive tape having the excellent properties of improving the degree of contamination of an adherend with an adhesive and providing the accuracy of thickness, in which fish-eyes and foreign substances are not included. As the background of the invention, on lines 44-55 of column 2 of Nagamoto 423, it is described that "The present inventors and their coworkers have considered that the cause of the particle (i.e., the residual adhesive of the above adhesive agent on the adherend) is a bleeding of unacceptable ingredients from the film layer to the adhesive layer. The unacceptable ingredients have a low molecular weight and are comprised in the radiation-cured resin that forms the film layer of the base material. Eventually, they find that the solution to the above problem lies in using a base material in which a barrier layer is formed on the film layer. The barrier layer is responsible for preventing the bleeding from the film layer to the adhesive layer."

Accordingly, the barrier layer of Nagamoto 423 is in contact with the adhesive layer, and is formed between the film layer of the cured mixture of the urethane (meth) acrylate oligomer and the reactive-diluted monomer and the adhesive layer.

In contrast, the pressure-sensitive tape of the present invention is composed of a pressure-sensitive adhesive layer, a cured urethane (meth)acrylate layer and a hard coat layer, which the layers are laminated in order, wherein the hard coat layer is not in contact with the pressure-sensitive adhesive layer. That is, the object of the hard coat layer of the present invention is to improve the pencil hardness, the scratch resistance and the surface gloss.

Thus, the object of the barrier layer of Nagamoto 423 is different from the object of the hard coat layer of the present invention in the composed material.

With respect to Nagamoto 953 (U.S, Patent No. 6,139,953) and Onozawa (U.S. Patent No. 6,103,370), Applicant submits that the combination of these references is improper.

Specifically, Nagamoto 953, referring to Fig. 2, relates to an adhesive tape 10 comprising a base sheet 11 and an adhesive layer 12 that is applied on the base sheet 11. The intended purpose of the adhesive tape is for precision-machining of an optical structural element, such as a lens, or a semiconductor element, such as a wafer. Specifically, referring to Fig. 2, a semiconductor wafer 13 may be held in place by the adhesive tape 10 while the opposite side of the semiconductor wafer 13 is subject to grinding or dicing. See col. 2, lines 27-43 of Nagamoto 953.

In contrast, referring to col. 1, lines 6-14 of Onozawa, Onozawa discloses a hard coat sheet which is used to provide an anti-scattering property and a light shielding function for a window pane or for preventing glare on a TV or personal computer. As such, the hard coat sheet confers abrasion resistance, wear resistance, and anti-fouling property, water repellence, oil repellence, anti-glare property and an anti-bacterial property.

Based on these two different intended uses, Applicant submits that there is no teaching, suggestion, motivation, or other reason to combine these references. Specifically, the function of

the adhesive sheet in Nagamoto 953 is to uniformly adhere a wafer or lens to a surface during machine processing, and for example, a clean room microfabrication process. Thus, Applicant submits that there is no teaching, suggestion, motivation, or other reason a person of ordinary skill in the art would want to modify the adhesive sheet of Nagamoto 953 to have optical properties, an anti-fouling property, an anti-glare property, or an anti-bacterial property. This is because the adhesive sheet of Nagamoto 953 would likely be used only once for a non-optical application in the processing of lenses and semiconductor wafers. Therefore, optical properties such as glare and wear-resistant properties such as anti-fouling and anti-bacterial properties should not be necessary or even desired. Therefore, Applicant submits that the only reason for modifying Nagamoto '953 with the disclosure of Onozawa is impermissible hindsight.

With respect to the new claim 10, the film layers of Nagamoto 423 and Nagamoto 953 are composed of the cured mixture of the urethane(meth)acrylate oligomer and the reactive-diluted monomer. That is, the film layers of Nagamoto 423 and Nagamoto 953 contain the reactant of the reactive-diluted monomer as essential ingredient.

In Nagamoto 423 and Nagamoto 953, it is described that the mixing ratio between the urethane(meth)acrylate oligcmer and the reactive-diluted monomer is 95 to 5:5 to 9.5, preferably 50 to 70:50 to 30, based on a weight-percentage.

Further, in examples of Nagamoto 423, the lowest amount of the reactive-diluted monomer is 30 wt%, and in examples of Nagamoto 953, the ratio of the reactive-diluted monomer is only 40 wt%. Accordingly, it is important to contain the reactive-diluted monomer in the mixture of Nagamoto 423 and Nagamoto 953.

However, the curable composition of the present invention contains only a difunctional urethane (meth) acrylate having a weight average molecular weight of 5,000 to 20,000 as a

polymerizable compound. The curable composition of the present invention does not contain the other polymerizable compound.

By curing the curable composition consisting of a difunctional urethane(meth)acrylate having a weight average molecular weight of 5,000 to 20,000 as a polymerizable compound, the pressure sensitive adhesive sheets of the present invention are superior in bending resistance property and can give excellent scratch resistance, water resistance and chemical resistance to the surface of image papers such as a photograph output by a printer, can be reduced in distortion, and can achieve an improved definition of an image and the reduction of the thickness of the pressure sensitive adhesive sheet for protecting a surface.

Thus, Applicant submits that the present invention is not obvious over the cited art combinations, and withdrawal of these rejections is respectfully requested.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

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23373
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Date: September 27, 2010